# Diagnosis and Treatment of Fibroepithelial Polyp

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## INTRODUCTION

Fibroepithelial polyps are among the most common benign lesions found in the oral cavity, with a prevalence of approximately 1%. These growths typically present as well-circumscribed, asymptomatic masses on the gingiva, buccal mucosa, or tongue. They are considered a form of inflammatory fibrous hyperplasia, likely originating from periodontal ligaments in response to chronic irritation or trauma. A fibroma of the oral mucosa is most commonly seen in older adults but can occur at any age, with a prevalence of 1–2%. A fibroma is an inflammatory hyperplastic lesion of the connective tissue. This local response to tissue insult results in an increase in the size of an organ or tissue due to hyperplasia of the constituent cells. In the oral cavity, a fibroma usually occurs due to chronic irritation from sources such as lip/cheek biting, irregular denture borders, overhanging restorations, calculus, sharp tooth edges, or other oral prostheses.

Despite their benign nature, fibroepithelial polyps can vary in size and may sometimes be mistaken for other oral lesions, such as fibromas or papillomas. Histopathological examination is often necessary to confirm the diagnosis and rule out malignancy. Treatment usually involves simple surgical excision, with a low recurrence rate when the underlying irritant is removed.

In this case report, we present an a fibroepithelial case with an atypical intra-oral presentation of fibroepithelial polyp in a 2 year-old male who presented to the Emergency Department.

## CASE REPORT

A 2 year-old male patient presented to the University Hospitals Rainbow Babies and Children's Hospital Emergency Department in October 2024 due to dental pain and concerns about gingival enlargement. The patient does not have a regular dental provider and has no significant medical history or known allergies. According to the patient's guardian, tooth #G has never been visible, despite the eruption of the adjacent teeth. The lesion had been present since May 2024, and about two weeks prior, the guardian noticed a white discoloration. She began picking at it two days before the visit and observed that it had expanded further back on the palate, potentially causing discomfort. A pediatrician recommended that the patient see a pediatric dentist for further evaluation.

A clinical examination was conducted. The patient's eyes were symmetrical, his midline was aligned, and he had a straight lateral profile. Intraoral examination revealed a large gingival growth extending from the distal of tooth #F to the mesial of tooth #H, spreading across the maxillary ridge and affecting both the buccal and palatal tissues. Tooth #G was not visible from the facial view. The lesion's surface was covered in a thick, spongy, non-wipeable white coating (see figure 1 A-B). A periapical radiograph showed that teeth #F and Gs' crowns positioning in a divergent direction, while teeth #G and Hs' roots positioning in a divergent direction. The radiographic finding indicates that the soft tissue may displace the eruption path of #G (see figure 1C). The provider was able to visualize a soft tissue lesion enveloping tooth #G. The patient did not have other decay.

Considered patient's young age and atypical presentation of the oral lesion with potential displacement of the primary tooth, the guardian was advised that the patient should undergo general anesthesia for lesion removal and biopsy.

## CLINICAL AND RADIOGRAPHIC PRESENTATION

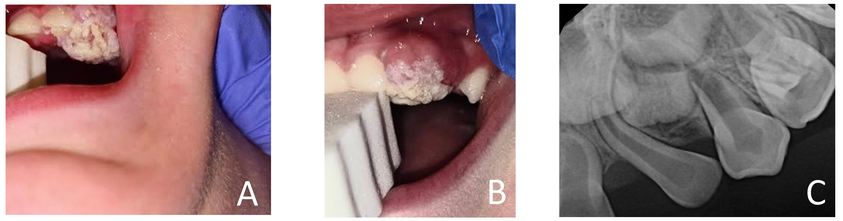


**Figure 1 Initial Presentation on October 17, 2024**

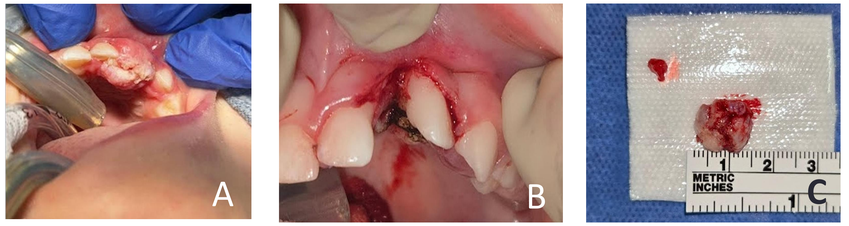


**Figure 2 Pre- and post-op clinical presentation after biopsy in October 22, 2024**

## SUMMARY OF TREATMENT RENDERED

The area was swabbed with sterile water. Prior to removing gingiva tissue, 20 mg of 1% lidocaine with 1:100,000 epinephrine was administered via local infiltration.

A tissue marker was utilized to mark the incision. A dry gauze were placed on the palatal and buccal prior to incision. A No.15 blade was used for incision from the distal to the mesial of #G on the buccal and palatal gingiva. The tissue was removed using No. 9 Periosteal and Adson forceps. The follicle tissue was removed with regular curved hemostat. The tissue was cauterized using a high temper eye cautery. The specimen was placed on telfa paper and measured with a ruler. The specimen was approximately 1.5cm in diameter (see figure 2C). The specimen was placed in formalin and sent for a biopsy. Hemostasis was obtained. Patient is healing well now. The biopsy results confirmed the lesion to be a fibroepithelial polyp. Tooth #G appeared to be malpositioned with no decay (see figure 2B). This case emphasizes the importance of early dental evaluation and histopathological assessment for gingival lesions in pediatric patients. Early intervention and appropriate management can prevent complications and ensure optimal oral health outcomes.

## DISCUSSION

This case presented a clinical presentation of an atypical fibroepithelial polyp. Understanding the etiology and clinical presentation of fibroepithelial polyps is crucial for proper diagnosis and management. As these lesions are often linked to chronic mechanical irritation, patient education regarding oral hygiene and the avoidance of irritants—such as ill-fitting dentures or repetitive trauma—can play a role in prevention. Further research may help clarify the exact pathogenesis and explore potential genetic or environmental contributing factors. Typically, these lesions are well-circumscribed and smooth; however, in this patient, the lesion appeared as a white, spongy, ill-defined mass.

One of the top differential diagnoses is congenital epulis, a rare benign lesion that appears exclusively in newborns, most commonly on the maxillary alveolar ridge. Unlike fibroepithelial polyps, congenital epulis lacks an inflammatory component and is composed of granular cells with an uncertain histogenesis. While fibroepithelial polyps can develop at any age and are linked to chronic irritation, congenital epulis is present at birth and does not recur after excision.

Another potential differential is the melanotic neuroectodermal tumor of infancy (MNTI), a rare but aggressive tumor that predominantly occurs in the maxilla of infants within the first year of life. MNTI has a characteristic biphasic cell population, with small neuroblast-like cells and larger melanin-producing epithelial cells. Unlike fibroepithelial polyps, which remain localized and slow-growing, MNTI is associated with rapid expansion, potential bone destruction, and a risk of recurrence.

Like most soft tissue pathology, histopathological examination plays a crucial role in distinguishing fibroepithelial polyps from these differentials. Given that fibroepithelial polyps are benign and often linked to mechanical irritation, treatment typically involves surgical excision, with a low recurrence rate if the underlying cause is addressed. Awareness of differential diagnoses ensures proper clinical assessment and avoids misdiagnosis of more aggressive or congenital conditions. A fibroepithelial polyp does not pose a risk of malignancy . Recurrence rates are low and recurrence is mostly caused by repetitive trauma at site of the lesion.

## REFERENCES

1. Mishra, A., & Pandey, R. K. (2016). Fibro-epithelial polyps in children: A report of two cases with a literature review. *Intractable & Rare Diseases Research*, *5*(2), 129–132. https://doi.org/10.5582/irdr.2016.01015
2. Bataineh, A., & Al-Dwairi, Z. N. (2005). A survey of localized lesions of oral Tissues: a clinicopathological study. *The Journal of Contemporary Dental Practice*, *6*(3), 30–39. https://doi.org/10.5005/jcdp-6-3-30
3. Perera, M., Al-Hebshi, N., Perera, I., Ipe, D., Ulett, G., Speicher, D., Chen, T., & Johnson, N. (2018). Inflammatory bacteriome and oral squamous cell carcinoma. *Journal of Dental Research*, *97*(6), 725–732. https://doi.org/10.1177/0022034518767118
4. Monteiro, L. S., Albuquerque, R., Paiva, A., De La Peña-Moral, J., Amaral, J. B., & Lopes, C. A. (2016). A comparative analysis of oral and maxillofacial pathology over a 16-year period, in the north of Portugal. *International Dental Journal*, *67*(1), 38–45. https://doi.org/10.1111/idj.12258
5. Zain, R. B., & Fei, Y. J. (1990). Fibrous lesions of the gingiva: A histopathologic analysis of 204 cases. *Oral Surgery Oral Medicine Oral Pathology*, *70*(4), 466–470. https://doi.org/10.1016/0030-4220(90)90212-b
6. Soles, B. S., Wilson, A., Lucas, D. R., & Heider, A. (2018). Melanotic neuroectodermal tumor of infancy. *Archives of Pathology & Laboratory Medicine*, *142*(11), 1358–1363. https://doi.org/10.5858/arpa.2018-0241-ra
7. Olson, J. L., Marcus, J. R., & Zuker, R. M. (2005). Congenital epulis. *Journal of Craniofacial Surgery*, *16*(1), 161–164. https://doi.org/10.1097/00001665-200501000-00033